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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No. 10/716,180	Applicant(s) BOSE ET AL.	
	Examiner MON CHERI S. DAVENPORT	Art Unit 2416	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 April 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21, 24-35 and 38-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21, 24-35, and 38-45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claims 1-21, 24, 30, 32, 38, 40, and 44** rejected under 35 U.S.C. 102(b) as being anticipated by Grube et al. (5,583,869).

Regarding **claims 1, 8, 15, 40, and 44** Grube et al. disclose an apparatus for allocating channels, comprising:

a memory that stores executable instruction signals (see figure 1, central controller, which contain executable instructions)

a processor that executes the instruction signals to (see figure 1, central controller, contains a processor that executes instructions)

receiving wireless messages that are in compliance with wireless communication standards, at least some of the different wireless messages compiling with different wireless communication standards (see col. 2-3, lines 65-4, the apparatus, receive messages and monitor to determine a system grade, in compliance with wireless communication system, see figure 1, wireless communication,)

determine the wireless communication standard used by the received first and second wireless message (see col. 3, lines 1-4, determine a system grade of service, based on received message, see also col. 4, lines 20-23, message type, communication standard known)

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determine available channels (see col. 4, lines 30-32, determines the number of available communication resources); and

dynamically allocate channels based on the available channels and the wireless communication standards used by the received first and second message to utilize wireless spectrum according to a current usage pattern (see col. 4, lines 16-42, dynamic allocation of the wireless resources, based on the system grade and availability(current usage pattern)).

Regarding **Claims 2, 9 and 16** Grube et al. discloses everything as applied above (*see claims 1, 8 and 15*). In addition the method, apparatus, and article includes:

send a notification to use the channel (see col. 4, lines 30-40, the central controller allocates resources, which it would send a notification)

Regarding **Claims 3, 10 and 17** Grube et al. discloses everything as applied above (*see claims 2, 9 and 16*). In addition the method, apparatus, and article includes:

wherein to send an instruction comprises sending an instruction to a software-defined signal processing system to allocate the appropriate channel for the received message (see col. 4, lines 30-40, the central controller, allocates resources, this is done through a use of a table, which reads on software-defined processing system)

Regarding **Claims 4, 11 and 18** Grube et al. discloses everything as applied above (*see claims 1, 8 and 15*). In addition the method, apparatus, and article includes:

wherein the spectrum of channels includes a channel dedicated to AMPS(see col. 2, lines 57-60,a TDM wireless communication system, include a channel dedicated to AMPS).

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Regarding **Claims 5, 12 and 19** Grube et al. discloses everything as applied above (*see claims 1, 8 and 15*). In addition the method, apparatus, and article includes:

wherein the received message is a call (see col. 3, lines 45-50, the communication resources allocated for call request, and call assignment)).

Regarding **Claims 6, 13 and 20** Grube et al. discloses everything as applied above (*see claims 1, 8 and 15*). In addition the method, apparatus, and article includes:

wherein the received message is a message that is received through an antenna (see col. 2, lines 57-60, a TDM wireless system, which messages are received through an antenna).

Regarding **Claims 7, 14 and 21** Grube et al. discloses everything as applied above (*see claims 1, 8 and 15*). In addition the method, apparatus, and article includes:

wherein the received message for transmission(see col. 3, lines 45-50, the communication resources allocated for call request, and call assignment, call assignments reads on message for transmission).

Regarding **Claims 24** Grube et al. discloses everything as applied above (*see claim 8*).

wherein the processor sends an instruction to allocate a channel dedicated to the communication standard for communicating with a mobile device that sent the message, a processor sends an instruction to allocate a channel dedicated to the communication standard (see figure 2, section 203, the central controller allocates first number of resources to communication unit)

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Regarding **Claim 30** Grube et al. discloses everything as applied above (*see claim 29*).

wherein the processor chooses from a list of available channels a channel that meets at least one of the frequency requirement and a bandwidth requirement ((see col. 4, lines 30-40, the central controller, allocates resources, this is done through a use of a table, a list of available channel resources, which have frequency and bandwidth requirements)

Regarding **Claim 32** Grube et al. discloses everything as applied above (*see claim 8*).

wherein the received message comprises a short-message, text, a housekeeping signal, or intended consumer signals (see col. 3, lines 45-50, the communication resources allocated for call request, and call assignment)

Regarding **Claim 38** Grube et al. discloses everything as applied above (*see claim 8*).

allocates channels dedicated to the communication standards associated with the messages (see figure 203, central controller allocates resources to communication unit, which communication unit is dedicated to communication standards).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 25, 26, 31, 33-35, 39, 41, 42, 45** rejected under 35 U.S.C. 103(a) as being unpatentable over Grube et al. in view of Burke et al.(Patent 5,406,643).

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Regarding **Claims 25, 31 and 35** Grube et al. discloses everything as applied above (*see claims 24, 30, and 33*).

Grube et al. fails to specifically point out wherein the processor sends an instruction to a software-defined signal processing device to send another message to the mobile device to use the allocated channel as claimed.

Burke et al. teaches wherein the processor sends an instruction to a software-defined signal processing device to send another message to the mobile device to use the allocated channel (see col. 4, lines 51-66, the send_message function interface with packet server through external software delimited by the runtime engine, which provides the ultimate path selection)

Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made to combine Grube et al. invention with Burke et al. invention because Burke et al. invention teaches a method of a portable subscriber unit automatically selects one of a plurality of available communications media based on knowledge of the available communication paths (see Burke et al., col. 2, lines 19-22).

Regarding **Claims 26** Grube et al. discloses everything as applied above (*see claim 8*).

Grube et al. fails to specifically point out wherein the communication standard comprises at least one of advance mobile phone service (AMPS), global system for mobile communications (GSM), code division multiple access (CDMA), enhanced data rates for GSM evolution (EDGE) and wideband code division multiple access (WCDMA) standard as claimed.

Burke et al. teaches wherein the communication standard comprises at least one of advance mobile phone service (AMPS), global system for mobile communications (GSM), code division multiple access (CDMA), enhanced data rates for GSM evolution (EDGE) and

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wideband code division multiple access (WCDMA) standard (see col. 3, lines 50-54, Communications paths 4, 6, and 8 may consist of wireless or wireline communications media such as, but not limited to, telephone lines, twisted pair wire, fiber-optic links, infrared channels, and radio frequency channels, AMPS is included as wireless).

Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made to combine Grube et al. invention with Burke et al. invention because Burke et al. invention teaches a method of a portable subscriber unit automatically selects one of a plurality of available communications media based on knowledge of the available communication paths (see Burke et al., col. 2, lines 19-22).

Regarding **Claims 33 and 34** Grube et al. discloses everything as applied above (*see claims 14 and 33*).

Grube et al. fails to specifically point out wherein the message comprises a broadcast as claimed.

Burke et al. teaches wherein the message comprises a broadcast (see col. 3, lines 50-54, the communication paths consist of radio frequency channels which is capable of sending a broadcast and receiving to a mobile device, see also col. 2, lines 49-53, The device manager maintains a list specifying the possible communications paths to specific end points and actually controls the communications resources responsible for establishing a communications path).

Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made to combine Grube et al. invention with Burke et al. invention because Burke et al. invention teaches a method of a portable subscriber unit automatically selects one of a

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plurality of available communications media based on knowledge of the available communication paths (see Burke et al., col. 2, lines 19-22).

Regarding **Claim 39** Grube et al. discloses everything as applied above (*see claim 8*).

Grube et al. fails to specifically point out wherein the processor receives messages having formats that are in compliance with communication standards, at least some of different messages complying with different communication standards comprising at least two of advance mobile phone service (AMPS), global system for mobile communications (GSM), code division multiple access (CDMA), enhanced data rates for GSM evolution (EDGE) and wideband code division multiple access (WCDMA) standard as claimed.

Burke et al. teaches wherein the processor receives messages having formats that are in compliance with communication standards, at least some of different messages complying with different communication standards comprising at least two of advance mobile phone service (AMPS), global system for mobile communications (GSM), code division multiple access (CDMA), enhanced data rates for GSM evolution (EDGE) and wideband code division multiple access (WCDMA) standard(see col. 3, lines 50-54, Communications paths 4, 6, and 8 may consist of wireless or wireline communications media such as, but not limited to, telephone lines, twisted pair wire, fiber-optic links, infrared channels, and radio frequency channels, AMPS is included as wireless)

Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made to combine Grube et al. invention with Burke et al. invention because Burke et al. invention teaches a method of a portable subscriber unit automatically selects one of a

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plurality of available communications media based on knowledge of the available communication paths (see Burke et al., col. 2, lines 19-22).

Regarding **Claim 41** Grube et al. discloses everything as applied above (*see claim 40*).

Grube et al. fails to specifically point out in which the first and second communication standards comprise two of AMPS, GSM, CDMA, EDGE, and WCDMA as claimed.

Burke et al. teaches in which the first and second communication standards comprise two of AMPS, GSM, CDMA, EDGE, and WCDMA (see col. 3, lines 50-54, Communications paths 4, 6, and 8 may consist of wireless or wireline communications media such as, but not limited to, telephone lines, twisted pair wire, fiber-optic links, infrared channels, and radio frequency channels, AMPS is included as wireless).

Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made to combine Grube et al. invention with Burke et al. invention because Burke et al. invention teaches a method of a portable subscriber unit automatically selects one of a plurality of available communications media based on knowledge of the available communication paths (see Burke et al., col. 2, lines 19-22).

Regarding **Claims 42 and 45** Grube et al. discloses everything as applied above (*see claim 40 and 44*).

Grube et al. fails to specifically point out further comprising executable instructions to implement: for each of the received first and second wireless messages, sending an instruction to a software-defined signal processing device to send another message to the first or second wireless device to use the corresponding allocated channel as claimed.

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Burke et al. teaches further comprising executable instructions to implement: for each of the received first and second wireless messages, sending an instruction to a software-defined signal processing device to send another message to the first or second wireless device to use the corresponding allocated channel (see col. 4, lines 51-66, the send_message function interface with packet server through external software delimited by the runtime engine, which provides the ultimate path selection).

Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made to combine Grube et al. invention with Burke et al. invention because Burke et al. invention teaches a method of a portable subscriber unit automatically selects one of a plurality of available communications media based on knowledge of the available communication paths (see Burke et al., col. 2, lines 19-22).

5. **Claims 27-29 and 43** rejected under 35 U.S.C. 103(a) as being unpatentable over Grube et al. in view of Palm (Patent 6,735,245).

Regarding **Claims 27, 28 and 43** Grube et al. discloses everything as applied above (*see claim 8*).

the processor allocates channels dedicated to the communication standards associated with the messages (see figure 2, section 203, the central controller allocates resources to communication unit).

However Grube et al. fails to specifically point out wherein the processor receives messages having formats that are in compliance with communication standards, at least some of different messages complying with different communication standards; processor dynamically responds to the messages to utilize spectrum according to a current usage pattern as claimed.

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Palm teaches wherein the processor receives messages having formats that are in compliance with communication standards, at least some of different messages complying with different communication standards standard; processor dynamically responds to the messages to utilize spectrum according to a current usage pattern (see col. 4, lines 44-53, auditing a condition of the communication channel, and selection based on the communication standard and the capability, see also col. 5, lines 63-67, analyzing the channel information (utilized spectrum and current usage pattern), in conjunction with exchanged negotiation information and received channel information, by a processor of the received message)

Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made to combine Grube et al.'s invention with Palm's invention, because Palm invention detects various configuration capabilities and limitations of a communication channel, to determine an appropriate communication standard appropriate for the existing line conditions (see palm, col. 2, lines 47-51).

Regarding **Claims 29** Grube et al. discloses everything as applied above (*see claim 8*).

However Grube et al. fails to specifically point out wherein the processor determines frequencies licensed to a user of the message as claimed.

Palm teaches wherein the processor determines frequencies licensed to a user of the message (see col. 2, lines 9-14, the frequency characteristics is useful prior to connection of the communication link).

Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made to combine Grube et al.'s invention with Palm's invention, because Palm

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invention detects various configuration capabilities and limitations of a communication channel, to determine an appropriate communication standard appropriate for the existing line conditions (see palm, col. 2, lines 47-51).

Response to Arguments

Claim Rejections - 35 USC § 112

Previous rejection under 35 USC 112 withdrawn in view of Applicant's arguments filed 4/23/2009.

6. Applicant's arguments with respect to claims 1, 8, 15, 40 and 44 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to MON CHERI S. DAVENPORT whose telephone number is (571)270-1803. The examiner can normally be reached on Monday - Friday 8:00 a.m. - 5:00 p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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2416

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July 5, 2009